

In the claims:

1. (currently amended) System for heating building structures (100, 120) and infrastructures, comprising characterized by there being placed in structures (100, 120), especially in their walls and floor (107, 122, 133), in lengths (111-113, 123, 131) laid side by side, one (30) or more lengths (123, 131) of a strip (10, 12) placeable in walls and floor of structures, having a constant transversal section and comprising substantially equal cores (25, 26) of very high electrical conductivity, superimposed with an insulating film (27) between them, coated with layers of insulating material (15, 16), by the first ends of said cores (25, 26) being connected respectively by conductors (96, 97, 127, 128) to a source of electric current, and by the electric circuit being closed where the second end of said cores (25, 26), freed of its layers of insulating material (15, 16), is tightly folded (45, 46) back on itself.

2. (currently amended) System as in claim 1, characterized in that wherein the first and second ends of the two superimposed cores (25, 26) are rapidly cleaned of the layers (15, 16), of insulating material, with preliminary detachment of said layers (15, 16), by application of a fluid (40) at a very low temperature.

3. (currently amended) System as in claims 1 and 2claim 1, wherein,

~~characterized in that~~ the first end (32) of the length (30) of strip (10, 12) is shaped as a trapezoid terminating in a rectangular extension, the width of which is equal to the lesser base of the trapezoid, which extension, when the layers (15, 16) of insulating material have been cleaned off, is inserted between the metal jaws (60, 70), freely sliding on crosswise supports (55, 56) of a frame (51, 52), of insulating material, of a clamp (50) comprising a screw-operated means of pressure (80, 81) that determines electrical connection between the metal cores (15, 16) of said length (30) and the cables (96, 97) of a course of electric current, respectively connected to said jaws (60, 70).

4. (currently amended) System as in claim 3,
~~characterized in thatwherein~~ the clamp (50) is placed inside a feed box (90).

5. (currently amended) System as in ~~claims 3 and 4~~claim 3,
~~characterized in thatwherein~~ a transformer (91) is placed in the feed box (90) said transformer being connected to the lines (92, 93) of a source of electric current and supplying the jaws (60, u70) of the clamp (50) with power not exceeding 40 V and therefore amply within the safety limit for any user.

6. (currently amended) System as in claim 1,
~~characterized in thatwherein~~ the strip (12), to facilitate adherence to the layers, above and below, of flooring in which it is laid, presents perforations passing through.

7. (currently amended) System as in ~~claims 1 to 6~~claim 1,
characterized in thatwherein a piece (30) of the strip (10, 12) is laid in the floor of
a room (100), the rectangular extension of its first end (32), inserted inside the
clamp (50) in the electric feed box (90) mounted on a wall (101), said piece being
laid in a spiral with straight lengths (111-113) and with turns made at each end
forming an angle (115) to change direction in relation to the length just previously
laid, until the centre of the room (100) is reached where the strip is cut off and the
electric circuit is closed by tightly and repeatedly bending its second end (35),
from which the layers (15, 16) of insulating material have been removed, and by
reciprocal contact between the second ends of the cores (25, 26).

8. (currently amended) System as in ~~claims 1 and 2~~claim 1,
characterized in thatwherein several lengths (123) of the strip (10, 12) are laid
side by side in the floor of a room (120), the first ends of the two metal cores (25,
26) of each length (123) being electrically connected, in parallel or in series, to
pairs of electric wires (127, 127¹) these in turn being connected by a pair of
conductors (128) to the transformer (91) in a feed box (90¹), connected to the
lines (92, 93) of a source of electric current, the electric circuit being closed by
the second end (126) of the lengths, from which the layers (15, 16) of insulating
material have been removed, being tightly bent over and therefore by reciprocal
contact between the second ends of the metal cores (25, 26).

9. (currently amended) System as in claim 1,
~~characterized in that~~ wherein the cores (25, 26) are of aluminum.

10. (currently amended) System as in claim 1,
~~characterized in that~~ wherein the cores (25, 26) are of copper.

11. (currently amended) (currently amended) System as in claim 1,
~~characterized in that~~ wherein the insulating film (27) between the two cores (25, 26) is polyester.

12. (currently amended) System as in claim 1,
~~characterized in that~~ wherein the material (15, 16) of the strip (10, 12) is bitumen.

13. (currently amended) System as in claim 11,
~~characterized in that~~ wherein the bitumen is associated to a plastomer.

14. (currently amended) System as in claim 1,
~~characterized in that~~ wherein the bitumen is associated to an elastomer.

15. (currently amended) System as in claim 1,
~~characterized in that~~ wherein the material (15, 16) of the strip is plastic.

16. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the plastic material is polyester.

17. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the strip (10, 12) is coated with protective fabric (20).

18. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the protective fabric is polyester.

19. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the protective fabric is fiberglas.

20. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the strip (10, 12) transmits electric power comprised between the values of 100-300 W/ m².

21. (currently amended) System as in claim 1,

~~characterized in that~~ wherein the best way of installing the strip (10, 12) in the ground (102) comprises, laid one after another, a film (103) of polythene, a layer of polystyrene (104), a lengthy of strip (30), a layer of cement (106) and the floor surfacing (107).

22. (currently amended) System as in claim 1,

~~characterized in that~~ wherein to facilitate adherence among the layers on either side of it, the strip (12) presents perforations whose diameter may even be 10 cm, spaced apart also by 10 cm.

23. (currently amended) System as in claim 1,
~~characterized in that~~ wherein strip dimensions are substantially as follows:
overall thickness 2 mm, thickness of each metal core: 0.2 mm, thickness of the insulating film between cores: 0.1 mm.